

B1 and while some gas may escape at first, the tissues around the tip will seal the flow until the cutting tip starts to emerge across the internal abdominal wall.

Page 13, please replace the paragraph beginning at line 5, with the following:

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FIGURE 12 is a top view of the trocar showing some of the external parts as well as a partial broken view of some interior parts. The body of the handle is made out of plastic and has two main segments. The proximal segment 5 is designated to fit into the palm of the hand and has a proximal end of hemispherical shape with a depression of arcuate profile 9 at the top terminating at a flat surface 9a where the guard stem controls are located. Those controls are recessed into the flat depression 9a to prevent unwanted actuation, and include a double slot with vertical slots 8 and 8a into which is inserted a button 7 and its rectangular guiding shank 7a. The button 7 is capable of vertical and horizontal movement, the latter movement being limited between arrows 7' and 7" as will be described later. The proximal segment 5 is assembled as an integral part of the penetrator system. Its distal end 51 forms the interface between the two segments of the handle.

IN THE CLAIMS

Please add new Claims 51-95 as follows:

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51. (New) A surgical device, comprising:
a penetrator having a main axis and being attachable to a handle for being gripped;
a cutting blade located at a distal end of said penetrator and housing a cutting tip; and
a guard positioned within said penetrator, said guard being movable with respect to said blade, said guard being configured for selectively exposing said cutting blade wherein said guard has an apex such that an angle subscribed at the apex of the guard is smaller than

an angle subscribed by said blade tip for progressively covering said blade during deployment of the penetrator.

52. (New) The surgical device according to claim 51, which comprises a tissue expander at a distal end of the penetrator for expanding a tissue cut by said cutting tip.

53. (New) The surgical device according to claim 51, which comprises an insufflation passageway configured to discharge a pressurized fluid upon said cutting blade penetrating a body tissue and to communicate said pressurized fluid to the body tissue upon said cutting tip substantially penetrating the body tissue.

54. (New) The surgical device according to claim 53, wherein said surgical device further comprises:

an external reservoir for supplying said insufflation passageway with said pressurized fluid.

55. (New) The surgical device according to claim 54, wherein said surgical device further comprises:

a check valve positioned between said insufflation passageway and an exterior of the surgical device, said check valve being configured to prevent leakage from said insufflation passageway.

56. (New) The surgical device according to claim 53, wherein said insufflation passageway is configured to be pressurized during an insertion of said cutting tip into the body tissue.

57. (New) The surgical device according to claim 51, wherein said pressurized fluid comprises a gas and wherein said cutting blade has one of a substantially dull tip and a substantially rounded tip.

58. (New) A surgical device, comprising:

a penetrator having a main axis and being attachable to a said handle for being gripped;

a cutting blade located at a distal end of said penetrator and having a cutting tip;

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an insufflation passageway configured to discharge a pressurized fluid while said cutting tip is inside a body tissue and to communicate said pressurized fluid across said body tissue when said cutting tip substantially penetrates said body tissue;

an external reservoir for supplying said insufflation passageway with said pressurized fluid;

a check valve positioned between said insufflation passageway and an exterior of the device, said check valve being configured to prevent leakage from said insufflation passageway, wherein said check valve comprises a flap valve openable by said penetrator upon insertion of said penetrator into said handle, and

a guard movable with respect to said cutting blade wherein said guard has an apex such that an angle subscribed in the apex of the guard is smaller than an angle subscribed by said blade for progressively covering said blade during deployment of the penetrator.

59. (New) The surgical device according to claim 58, wherein said insufflation passageway passes through said penetrator.

60. (New) The surgical device according to claim 51, wherein:

said cutting blade includes at least one blade having one of a substantially rounded tip and a substantially dull tip.

61. (New) A surgical device, comprising:

a penetrator having a main axis and being attachable to a handle for being gripped;

a cutting blade located at a distal end of said penetrator;

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a guard movable with respect to said cutting blade, said cutting blade having a cutting tip and being configured to expose said cutting tip while said cutting tip is beginning to cut a tissue layer and while said cutting tip is in said tissue layer, and to progressively cover the end of said cutting tip immediately after a most distal point of said cutting tip has substantially passed through said tissue layer;

said guard having a safety guard edge smaller than a blade edge angle defined by said cutting blade.

62. (New) The surgical device of claim 61, further comprising:

a spring configured to allow translation of said guard responsive to a force generated during a driving of said cutting tip into and through said tissue layer.

63. (New) The surgical device of claim 61, which comprises a tissue expander located proximal to said cutting tip.

64. (New) The surgical device according to claim 59, wherein said cutting blade has one of a substantially dull cutting tip and a substantially rounded cutting tip.

65. (New) The surgical device according to claim 62, wherein said cutting tip comprises one of a substantially dull cutting tip and a substantially rounded cutting tip.

66. (New) The surgical device according of claim 61, which comprises a penetration monitor mounted on the handle for indicating a position of said guard relative to said cutting tip.

67. (New) A surgical device, comprising:

a penetrator having a main axis and being removably attachable to a handle for being gripped;

at least one cutting blade located at a distal end of said penetrator and being connected thereto; and

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a guard movable with respect to said at least one cutting blade and being configured to selectively expose said at least one cutting blade wherein said guard has an apex such that an angle subscribed in the apex of the guard is smaller than an angle subscribed by said at least one cutting blade for progressively covering said at least one cutting blade during deployment of the penetrator.

68. (New) A surgical device according to claim 67, wherein said cutting blade has one of a substantially dull tip and a substantially rounded tip.

69. (New) A surgical device, comprising:
a handle configured to be gripped;
a penetrator having a main axis and attached to said handle;
at least one cutting blade located at a distal end of said penetrator and having a cutting tip;

a guard configured to slidably cover and uncover said cutting tip, said guard being movable with respect to said at least one cutting tip and being configured to selectively expose said cutting tip; and

a locking mechanism configured to hinder an accidental uncovering of said cutting tip by said guard wherein said guard has an apex such that an angle subscribed in the apex of the guard is smaller than an angle subscribed by said blade for progressively covering said blade during deployment of the penetrator.

70. (New) A surgical device according to claim 69, wherein said cutting tip comprises one of a dull tip and a substantially rounded tip.

71. (New) A surgical device, comprising:
a penetrator having a main axis and attachable to a handle for being gripped;
at least one cutting blade located at a distal end of said penetrator;

wherein said handle includes:

a guard for slidably covering and uncovering said at least one cutting blade, said guard being moveable with respect to said tissue expander;

at least one side horn configured to facilitate pushing, pulling, rotation, and tilting of said surgical device wherein said guard has an apex such that an angle subscribed in the apex of the guard is smaller than an angle subscribed by said at least one cutting blade for progressively covering said at least one cutting blade during deployment of the penetrator.

72. (New) A surgical device according to claim 71, wherein said cutting blade has one of a dull tip and a substantially rounded tip.

73. (New) The surgical device comprising:

means mountable on means for gripping said surgical device for passing an object of interest into a hole in a tissue member;

means mounted on said means for passing object into the hole in the tissue member for cutting the hole for insertion of said means for passing an object into the hole in the tissue member, said means for cutting the hole being movable with respect to said means for expanding tissue; and

means for halting said means for cutting wherein said means for halting comprises means for guarding said means for cutting, said means for guarding said means for cutting being movable with respect to said means for expanding the tissue member wherein said means for guarding said means for cutting has an apex such that an angle subscribed in the apex of the means for guarding is smaller than an angle subscribed by said means for cutting for progressively covering said means for cutting during deployment of said means for expanding the tissue member.

74. (New) The surgical device according to claim 73, wherein said cutting blade has one of a dull tip means and a substantially rounded tip means.

75. (New) The surgical device according to claims 51, 59 or 66, wherein said cutting blade comprises:

a substantially planar blade having a first blade edge, said first blade edge being attached to a distal end of said penetrator and oriented substantially parallel to a main axis of said penetrator and being configured to produce an opening in a body tissue for an insertion of a surgical cannula.

76. (New) The surgical device according to claim 75, wherein said cutting blade further comprises:

a second blade having a second blade edge, wherein:

said second blade is attached to a distal end of said penetrator and oriented substantially parallel to said main axis of said penetrator; and

said second blade edge being configured to intersect said first blade edge at an intersection distal to said penetrator.

77. (New) The surgical device according to claim 76, wherein said first blade edge, said second blade edge, and further blade edge intersect at a cutting tip of said cutting blade.

78. (New) The surgical device according to claim 56, which comprises a seal which is concentrically positioned with said penetrator, said seal being positioned in said handle and being sealingly engageable with said flap valve.

79. (New) A surgical device, comprising:

penetrator means having a main axis and being attachable to a handle;

means for cutting tissue located at a distal end of said penetrator means;

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guard means movable with respect to said tissue expander means and configured to selectively expose said means for cutting tissue wherein said means for guarding said means for cutting tissue has an apex such that an angle subscribed at the apex of the means for guarding is smaller than an angle subscribed by said means for cutting tissue for progressively covering said means for cutting tissue during cutting of the tissue.

80. (New) A surgical device as claimed in claim 79, wherein said means for cutting tissue comprises one of a dull tip means and a substantially rounded tip means.

81. (New) A surgical device according to claim 51, wherein said penetrator is removably insertable into the handle.

82. (New) A surgical device according to claim 58, wherein said penetrator is removably insertable into the handle.

83. (New) The surgical device according to claim 61, wherein the penetrator is removably insertable into the handle.

84. (New) A surgical device according to claim 67, wherein the penetrator is removably insertable into the handle.

85. (New) The surgical device according to claim 69, wherein the penetrator is removably insertable into the handle.

86. (New) The surgical device according to claim 55, which comprises:
a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the cutting tip of the cutting blade after a most distal point of the cutting tip has substantially passed through a layer of the tissue.

87. (New) A surgical device according to claim 58, which comprises:

a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the cutting tip of the cutting blade after a most distal point of the cutting tip has substantially passed through a layer of the tissue.

88. (New) A surgical device according to claim 61, which comprises:

a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the cutting tip of the cutting blade after a most distal point of the cutting tip has substantially passed through a layer of the tissue.

89. (New) A surgical device according to claim 67, which comprises:

a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the cutting tip of the cutting blade after a most distal point of the cutting tip has substantially passed through a layer of the tissue.

90. (New) A surgical device according to claim 88, which comprises:

a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the end of the cutting blade after a most distal point of the cutting blade has substantially passed through a layer of the tissue.

91. (New) A surgical device according to claim 65, which comprises:

a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the end of the cutting blade after a most distal point of the cutting blade has substantially passed through a layer of the tissue.

92. (New) A surgical device according to claim 82, which comprises:

a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the end of the cutting blade after a most distal point of the cutting blade has substantially passed through a layer of the tissue.

93. (New) A surgical device according to claim 83, which comprises:

a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the end of the cutting blade after a most distal point of the cutting blade has substantially passed through a layer of the tissue.

94. (New) A surgical device according to claim 84, which comprises:

a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the cutting tip of the cutting blade after a most distal point of the cutting tip has substantially passed through a layer of the tissue.

95. (New) A surgical device according to claim 85, which comprises:

a locking system for locking and unlocking the guard in position so as to selectably expose said cutting blade during cutting of the tissue and to progressively cover the cutting tip of the cutting blade after a most distal point of the cutting tip has substantially passed through a layer of the tissue.
